

# EXHIBIT 36

# Uber gutted Carnegie Mellon's top robotics lab to build self-driving cars

*A 'partnership' based on poaching*

by Josh Lowensohn | May 19, 2015, 4:07pm EDT



NREC

This January, as much of the world was getting over its post-holiday hangovers, people began disappearing from Carnegie Mellon University's robotics center. At first it was only a few individuals, mostly software developers. Then it became an entire team, and eventually the group included the center's director.

They weren't going far.

Just around the corner, Uber had set up shop in a renovated building that used to be a chocolate factory. Most people at CMU's National Robotics Engineering Center (NREC) didn't even know it yet, but in a building that shared the very same parking lot, the ride-hailing company had embarked on a multi-year project to replace human drivers with

computers. And to do that, they'd need all the help they could get. So Uber got to work snapping up some of the company's most talented staffers.

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## "THESE GUYS, THEY TOOK EVERYBODY."

"They took all the guys that were working on vehicle autonomy — basically whole groups, whole teams of developers, commercialization specialists, all the guys that find grants and who were bringing the intellectual property," recalls a person who was there during the departures. "These guys, they took everybody."

All told, Uber snatched up about 50 people from Carnegie Mellon, including many from its highest ranks. That's an unusually high number of people to leave at once, and accounted for about a third of the staff NREC had at the end of last year. Many were top employees, including David Stager, who had been there since 1997 and is now Uber's lead systems engineer; Jean-Sébastien Valois, a senior commercialization specialist who had been with NREC for nearly 12 years (and lists himself as "on leave" [on CMU's site](#)); and Anthony Stentz, NREC's director for the past four and a half years, who had been at the center since 1997. News of some of the departures was [reported earlier](#) this year by [TechCrunch](#) and *The Pittsburgh Business Times*.

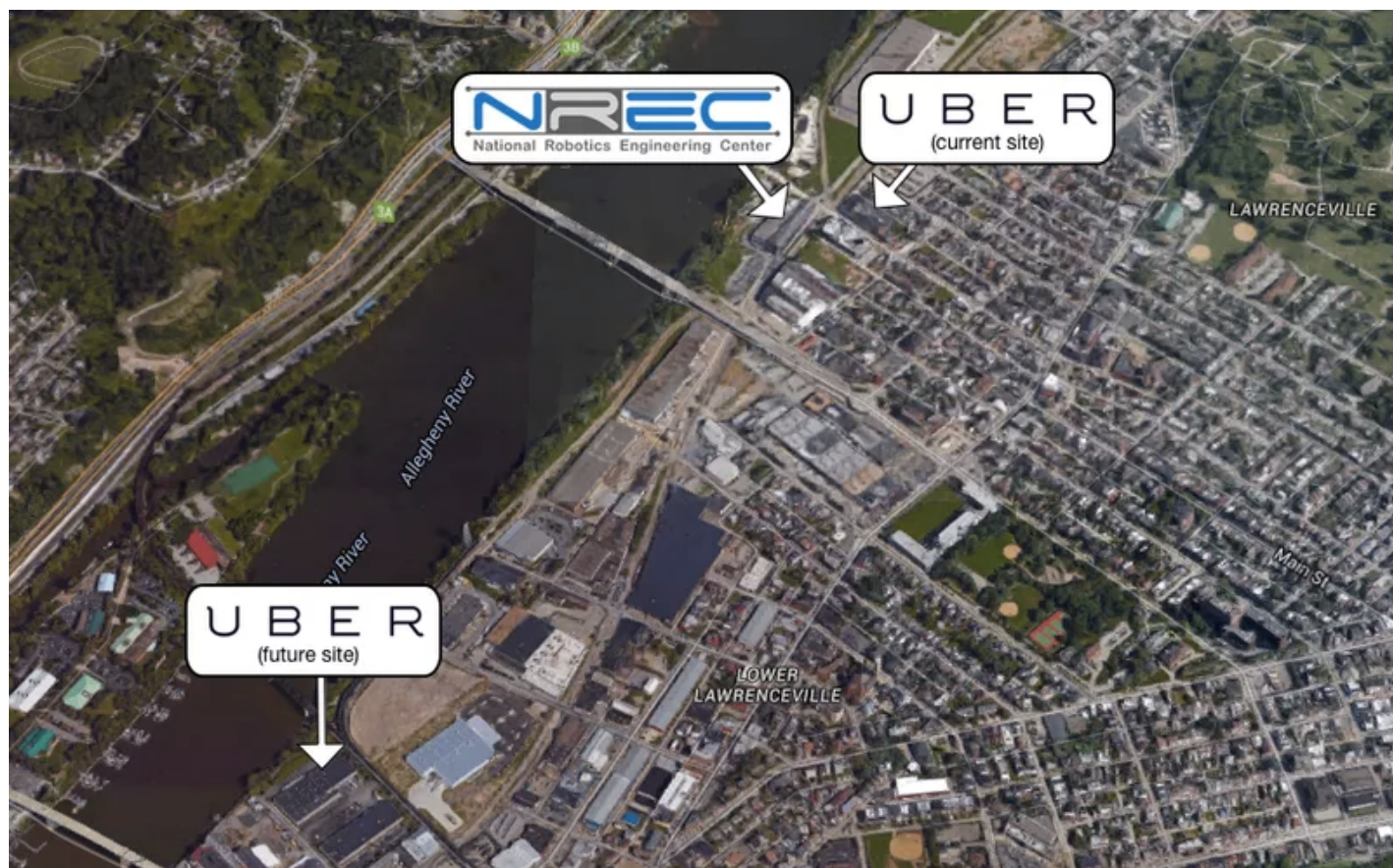
In February, [Uber and CMU went public with what the pair called a strategic partnership](#), announcing a grand vision to make joint advances in research and development for maps, vehicle safety, and autonomous driving. "This is yet another case where collaboration between the city and its universities is creating opportunities for job growth and community development," Pittsburgh Mayor William Peduto said at the time. Uber and CMU promised to hold an event to go into more detail on the partnership in the city a few weeks later, but no event ever materialized.

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## UBER IS MOVING INTO NEW DIGS

Now, four months later, Uber is making its first move. Yesterday the company announced [plans to lease a 53,000 square foot facility](#) that used to be a Restaurant Depot supply store. The space, which is about a mile down the road from NREC and Uber's current digs, will be transformed into the company's new Advanced Technologies

Center by the end of this year — presumably with some of the fanfare that was promised back in February.



([Google Maps](#))

In the meantime, it's not clear exactly what Uber is up to, or who is working on what inside of NREC's walls. Part of the deal includes a "transition period" that keeps some of the departed staffers around, but only to wrap up odds and ends of existing projects. The unusual arrangement has bothered some employees at NREC who say it's created tensions among staff and their former colleagues.

"The work of these employees is very incestuous and loose," says the same NREC insider. "They are given free rein of the facilities as part-time CMU employees, but there are absolutely no checks on the work that they are doing or what [intellectual property] they are taking. Is it for CMU? Is it for Uber? None of us here know."

CMU officials declined multiple requests for comment, referring only to a statement made by Andrew Moore, the dean of its School of Computer Science back in February, praising



the partnership. "We look forward to partnering with Uber as they build out the Advanced Technologies Center and to working together on real-world applications, which offer very interesting new challenges at the intersections of technology, mobility and human interactions," Moore said at the time.

In a statement, Uber said only that it looks forward to the partnership with CMU, and moving into its new space:

We've been focused on finding a space for Uber's Advanced Technologies Center and recently leased a new space in Pittsburgh. We expect to move in at the end of the year and will be moving forward with plans to hold an event. We look forward to continuing to build our partnership and work closely with the CMU team.

Shortly after the original announcement, Martial Hebert, the director of CMU's Robotics Institute acknowledged these ongoing wrap-up projects to [\*The Pittsburgh Business Times\*](#), but stressed that the partnership would be a good thing for everyone in the long term. "The way I see the story is that there is a slightly negative part, which is the fact that we have to reorganize certain things, but there is a hugely important side, which is that this Uber center is just the tip of the iceberg," Hebert said. "It's an indication that robotics as an industry, as a field, has now matured."

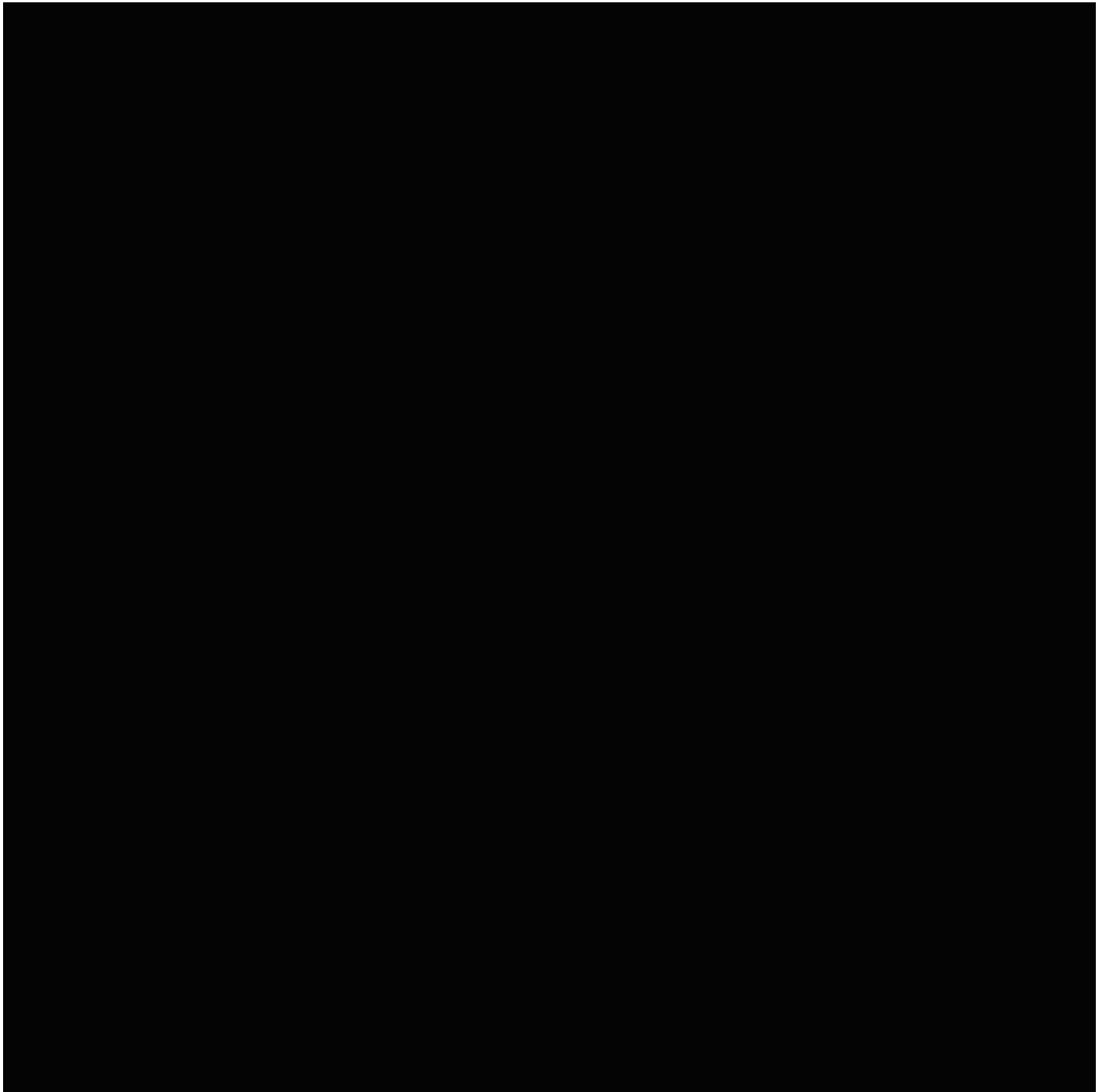
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## *NREC PROJECTS RANGE FROM COMBAT VEHICLES TO SORTING STRAWBERRIES*

Yet, the lack of clarity and sudden absence of talented colleagues presents new challenges for NREC, a nearly 20-year-old institution that has designed everything from uncrewed ground combat vehicles to an automated system for sorting strawberries on commercial farms. Most of these projects come from external clients, which include commercial companies, NASA, and the military. The clients pay for the research, and both sides end up with a proof of concept that can be made into a commercial product or licensed to others. Unlike a commercial enterprise, though, what ends up being invented at NREC is not mass-produced there.

Uber, on the other hand, has mass production squarely in its sights. The entire premise of this partnership is so that Uber can be ahead of the curve with autonomous driving and the technologies surrounding it. At the end of 2014, Uber had 160,000 drivers around the world on its platform — jobs that can and likely will be replaced by self-driving

systems in the next few decades. There are expected to be safety benefits to eliminating human drivers, but it could also radically improve Uber's business by eliminating its top expense.



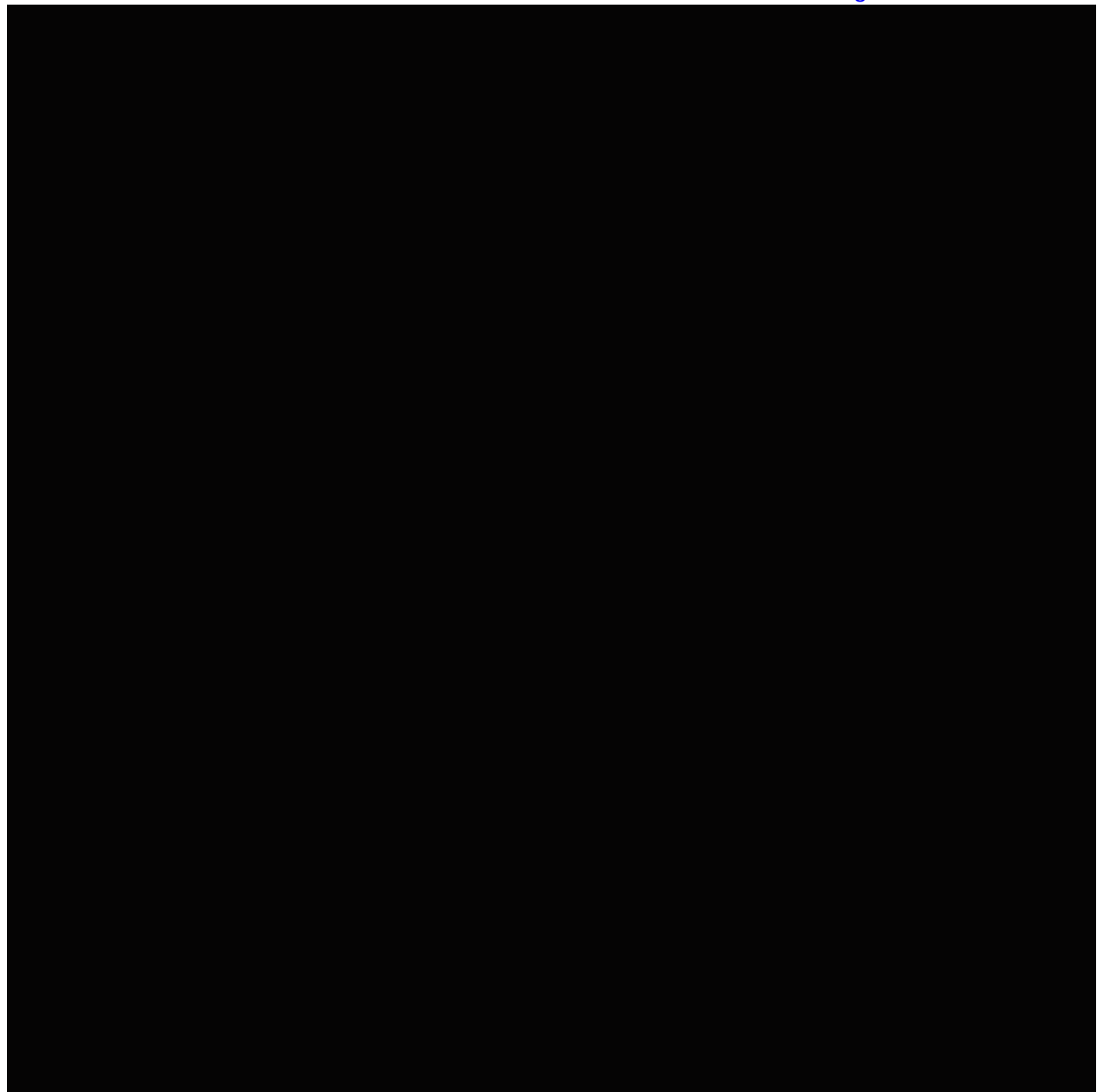
Google's upcoming self-driving car. ([Google](#))

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**ANYONE WHO IS ANYONE IS WORKING ON A SELF-DRIVING CAR**

The competition to get self-driving cars onto roads is getting more heated all the time. Google (whose self-driving car director, Chris Urmson, is himself a CMU robotics alum) is working to have its own driverless car ready by 2020. Tesla is on the verge of launching an "autopilot" feature that lets its sedans drive themselves on highways, as well as self-park when people find their way back to the garage. The electric car maker is trying to automate all the other parts of driving, something that still requires years of research and changes in local and federal regulations.

CMU was a natural choice for Uber to pick as its partner: the university has an impressive track record in designing automated vehicles. In 2004, when DARPA held its first Grand Challenge — a contest to put autonomous vehicles to the test — the CMU team made it the furthest. Its vehicle, an '86 Humvee named Sandstorm, made it 7.4 miles of the competition's 150-mile-long course. It didn't win the \$1 million bounty, but it firmly established CMU as a leader in its field. At the following year's contest, two CMU vehicles came in second and third place, respectively, losing to Stanford by a few seconds. Two years later, CMU returned the favor, beating Stanford in DARPA's Urban Challenge, which brought the cars to cities for the first time. Since then, when VIPs like the president or the US secretary of transportation come by for visits at NREC, the cars are still trotted out as badges of honor, a testament to the technologies that have been created under its roof.



*Meet "Boss," the winning vehicle from DARPA's 2007 Urban Challenge. It was a collaboration between CMU and General Motors.*

### ***YOU CAN'T BUY A UNIVERSITY, BUT YOU CAN MAKE ITS EMPLOYEES BETTER OFFERS***

One likely driving factor in NREC departures is money. Uber is flush with it, with recent reports suggesting the company is raising another \$1.5 billion in funding, valuing the company at \$50 billion. As part of this deal, Uber paid CMU an undisclosed sum to fund faculty chairs and graduate fellowships. CMU declined to comment on its partnership



with Uber, including questions about how much money changed hands and who owned the resulting technologies.

Looking ahead, greater questions linger about what will happen at NREC without some of these people there. A key part of attracting new projects has been proving that they can be turned into something commercially viable. Historically, the people responsible for that were the commercialization specialists. If you were to think of NREC like a law firm, these people are like the partners, and are the ones who are actually developing things and helping get them off the ground. Six of the eight commercialization specialists NREC currently has listed on its site all left for Uber, while a seventh — Dr. Herman Herman — was named the group's new director in March.

Other ramifications of the departures at NREC may end up being more immediate. There's lingering resentment from some of the people involved on these projects who were not picked to come over to Uber. Shortly after the departure, there were also murmurings of moving everyone to a smaller space given that it was harder to justify a building that spanned 100,000 square feet and three entire blocks. Instead, the company is in the midst of trying to rearrange its existing workspaces given the newfound emptiness.

For Uber, though, this all seems like another footnote in the company's quest to get somewhere better and faster than its rivals can. Poaching an entire team may not even be the most dramatic business move it makes this year. But the company has definitely left its mark in Pittsburgh.

**Update May 19th, 4:16PM:** Added comment from CMU, which comes in the form of a press release the school put out in February, and again on **May 20th, 1:06PM** to note the earlier TechCrunch report.

